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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,289	12/20/2001	Ichiro Bekku	930011-2028	1810

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EXAMINER

THORNTON, YVETTE C

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 06/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/027,289

Applicant(s)

BEKKU ET AL.

Examiner

Yvette C. Thornton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/548952.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This is written in reference to application number 10/027289 filed on December 20, 2001, which is a continuation of application number 09/548,952, now US 6,413,693.

Request for Continued Examination (RCE)

1. The request filed on May 7, 2003 for a Request for Continued Examination (RCE) under 37 CFR 1.53(d) based on parent Application No. 10/027289 is acceptable and a RCE has been established. An action on the RCE follows.

Response to Amendment

2. Claims 1-3 and 6-8 are currently pending.
3. The amendment to instant claim 1 is sufficient to overcome the rejection set forth under 35 USC 112 in paper number 5.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yukinobu (US 5,411,792 A) in view of the applicant's own disclosure. Yukinobu teaches a transparent conductive substrate comprising a transparent overcoat layer formed on a base plate member and a transparent conductive film, which is formed on the overcoat layer. The said conductive film contains ultra-fine particles of indium-tin oxide (see abstract). Yukinobu

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teaches a method wherein a base board is coated with a coating layer and an overcoat layer and bonded to a light transmitting base plate member using an overcoat liquid and/or a bonding agent. The base board is then peeled from the base plate member. The base board can be selected from a glass plate, a metal plate, a ceramic plate, etc (c. 3, l. 54-56).

Specifically embodiment fourteen exemplifies a method of forming a transparent conductive substrate comprising (1) coated a polyimide varnish onto a soda-lime glass plate; (2) forming a transparent conductive film by applying a coating of ultra-fine ITO particles and a thermosetting resin binder, drying and calcinating the said coating; (3) then coating the overcoat liquid 3 containing the UV setting resin; and (4) bonding the form element to a PET film selected as the base plate (c. 12, l. 20-42 and c. 10, l. 45-65). Yukinobu teaches that since the adhesion between the base board and the polyimide film is weak, the polyimide layer is peeled off from the interface. It is the examiner's position that the taught glass plate meets the limitation of a glass substrate, which is superior in heat resistance to the plastic material. The PET base plate meets the limitation of a plastic material. The polyimide film constitutes a peelable film while the taught overcoat layer meets the limitation of a protective film made of an organic resin. Yukinobu teaches that the transparent conductive film has a specific resistance of $5 \times 10^{-2} \Omega \cdot \text{cm}$ or lower (c. 2, l. 27-31). It is the examiner's position that ITO would inherently have a specific resistance of $3.0 \times 10^{-4} \Omega \cdot \text{cm}$ or lower when the substrate is heated to a temperature of 150 degrees C or higher. This position is based on the applicant's own disclosure when teaches ITO as a preferred material for the claimed conductive layer (spec. pg. 2, l. 1-7 and pg. 8, l. 1-12).

Embodiment fourteen of the said reference however fails to explicitly discuss the use of an adhesive layer formed on the taught overcoat layer. Yukinobu teaches a method wherein a base board is coated with a coating layer and an overcoat layer and bonded to a light transmitting base plate member using an overcoat liquid and/or a bonding agent. The base board is then peeled from the base plate member (c. 2, l. 62-c. 3, l. 15). It is the examiner's position that would have been obvious to one of ordinary skill in the art in light of such a teaching, to use a bonding agent to affix the base plate member to the overcoat layer. The said bonding agent constitutes an adhesive layer as claimed by the applicant.

Yukinobu teaches that the transparent conductive ink is applied to the based by methods such as wire bar coating, the doctor blade coating method, the roller coating method or a similar method (c. 4, l. 3-19). The background teachings of Yukinobu teaches that it is well known in the art to form films of oxides such as ITO by sputtering method or by the CVD method (c. 1, l. 13-16). One of ordinary skill in the art would have been motivated to use the conventional methods of sputtering and CVD to apply the taught transparent conductive ink with the expectation that the said methods would require expensive equipment and can not provide high productivity or high yield.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yukinobu (US 5411792 A) in view of applicant's own disclosure as applied to claims 1-3 and 7 above, and further in view of Sato et al. (US 5155005 A).

Yukinobu, as discussed above, teaches all the limitations of the instant claims except the presence of a color filter layer formed on the protective film as set forth in instant claim

6. Yukinobu teaches that the taught invention is related to a transparent conductive

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substrate, which is to be used as a transparent electrode, or the like for touch panels, liquid crystal display devices, electroluminescent display elements etc., (c. 1, l. 5-11). It is the examiner's position that it is well-known and conventional in the art of liquid crystal display manufacturing that the structure of a liquid crystal color displayer (LCD) comprises a color filter, a protective film and a clear electrode in the at order. This position is based on the teachings of Sato which discloses that generally, the structure of a color LCD first multilayer construction comprising a first multilayer construction having provided on a transparent substrate such as a glass plate and laminated in the following order, a color filter, a protective film, a clear electrode, an insulating film and an orientation film (c. 1, l. 11-33). It would have been obvious to one of ordinary skill in the art, as it is well known and supported by Sato, to incorporate a color filter between the taught base plate having a bonding agent and overcoat layer of Yukinobu in order to make the taught element capable of being used in liquid crystal display devices.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yukinobu (US 5411792 A) in view of applicant's own disclosure as applied to claims 1-3 and 7 above, and further in view of Oka (US 5,747,152 A). Yukinobu, as discussed above, exemplifies the use of thermo-setting and UV-setting resins as suitable overcoat liquids (c. 7, l. 45-61).

Yokinobu however fails to teach a hardness value for the said overcoat liquids. It is the examiner's position that after the taught heating step of Yokinobu, the taught resins form a fully crosslinked layer. One of ordinary skill in the art would expect that hardened resin layer would inherently have a hardness of H or more. This position is supported by the teachings of Oka ('152), which teaches a hard coat layer comprising a binder resin (i.e.,

thermosetting resin, etc). Oka teaches that in order to impart a hard property the thickness of the hard coat layer is not less than $0.5\text{ }\mu\text{m}$ and has a hardness not less than H as measured by JIS K5400 (c. 13, l. 22-34).

Response to Arguments

8. Applicant's arguments filed November 4, 2002 have been fully considered but they are not persuasive. Applicants provide arguments that Yukinobu's film exhibits a specific resistance between $6 \times 10^{-3}\text{ }\Omega\text{.cm}$ and $5 \times 10^{-2}\text{ }\Omega\text{.cm}$. It is the examiner's position that the ITO film of Yukinobu would inherently have a specific resistance of $3.0 \times 10^{-4}\text{ }\Omega\text{.cm}$ or lower when the substrate is heated to a temperature of 150 degrees C or higher. This position is based on the applicant's own disclosure when teaches ITO as a preferred material for the claimed conductive layer (spec. pg. 2, l. 1-7 and pg. 8, l. 1-12). Applicants argue that the ITO material of the prior does not inherently meet the limitations of the instant claims. Applicants have failed to provide evidence that an ITO material in combination with a binder would not inherently meet the claim limitations.

9. Applicants further argue that the prior art teaches away from the process of using sputtering or CVD deposition to apply the taught ITO material. The examiner is of the position, as discussed above, that it would have been obvious to one of ordinary skill in the art to use such methods with the expectation that the said methods would require expensive equipment and can not provide high productivity or high yield.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvette C. Thornton whose telephone number is 703-305-0589. The examiner can normally be reached on Monday-Thursday 8-6:30.
11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet C. Baxter can be reached on 703-308-2303. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.
12. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1495.


Yvette Clarke Thornton
Junior Examiner
Art Unit 1752

yct
June 12, 2003